UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,422	10/31/2003	Edgar J. Mister	NOR-1153	2069

37172 7590 03/29/2006

WOOD, HERRON & EVANS, LLP (NORDSON)
2700 CAREW TOWER
441 VINE STREET
CINCINNATI, OH 45202

EXAMINER	
KOCH, GEORGE R	

ART UNIT	PAPER NUMBER
1734	

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

CM

Office Action Summary	Application No.	Applicant(s)	
	10/699,422	MISTER ET AL.	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,24,25,27-30 and 32-34* is/are pending in the application.

4a) Of the above claim(s) *3,4,6,7,10,11,13,14,27,28,32 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,8,9,12,15-17,24,25,29,30 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks, filed 3/10/2006, with respect to the rejection(s) of the claim(s) under Gutsafsson, Heaney and Pruett have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made using Ogiwara (JP11-156,676).

2. Applicant's argument concerning the objection of claims 24 and 29 are under consideration. However, since none of claims 2, 9, 24 and 29 are in condition for allowance, lifting the objection would be premature. The claims are not considered to have different scopes since it is still possible that the basis for patentability is the subject matter of claims 2 and 9.

Claim Objections

3. Applicant is advised that should claim 2 be found allowable (and rejoinder is not permitted, such as because the patentability of the claims is due to the species), claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed

claim. See MPEP § 706.03(k). Claim 2 is substantially identical to the first, elected, alternative in claim 24.

4. Applicant is advised that should claim 9 be found allowable (and rejoinder is not permitted, such as because the patentability of the claims is due to the species), claim 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claim 9 is substantially identical to the first, elected, alternative in claim 29.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 2, 5, 24, 25 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogiwara (JP11-156,676).

Ogiwara discloses an apparatus for monitoring the operation of a heating device. This heating device/element (turret 6 with cutting instrument/blade tool) is capable of moving periodically along a predefined path. Ogiwara discloses a first sensor (position sensor 26, best seen in Figure 2) configured to sense the presence of the heating element as the heating element moves past the first sensor, and a second sensor

(temperature sensor 38) mounted to allow movement of the heating element thereto (the movement being created by items 17 and 19), and configured to sense a temperature associated with the heating element when the first sensor senses the presence of the heating element (see also paragraph 0015). Ogiwara also discloses a controller coupled with the first and second sensors (compensator 70, correction calculating device 705, etc - see paragraph 0023) and configured to monitor the first and second sensors and to perform a control function in response to the temperature sensed by the second sensor (for example, described in paragraphs 0025-0030).

As to claim 2 and 24, Ogiwara discloses measuring the heat variations and variation rate (see paragraph 0028), which is a deviation from a predetermined temperature range.

As to claim 5 and 25, Ogiwara discloses that the first sensor measures the position of the cutting turret (see paragraph 9). Therefore, Ogiwara discloses a proximity sensor.

As to claim 34, see claim 1 above. The preamble calls for a plurality of heating elements, which defines the intended use scope, but the claim body is only directed towards the sensor elements and is substantially identical to the limitations in claim 1. Therefore, the sensor of Ogiwara is capable of monitoring a device having a plurality of heating elements.

Claim Rejections - 35 USC § 103

7. Claims 1, 2, 5, 24, 25 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gutsaffson (US 6,035,604) and Ogiwara (JP11-156,676).

As to claims 1 and 34, Gutsaffson discloses an apparatus for monitoring the operation of a heating device having a plurality of heating elements (items 12 and 13) moving periodically along at least one predefined path, the apparatus comprising: a first sensor (item 92), a second sensor adjacent said first sensor (item 93), said second sensor configured to successively sense temperatures respectively associated with the heating elements as the heating elements move past said sensors (see column 7, lines 61-67, which discloses that the proximity sensor can be replaced with a temperature sensor); and controller coupled to the first and second sensor and configured to perform a control function in response to temperature sensed by said second sensor (column 6, line 49 to column 7, line 6).

Gutsafsson does not disclose that said first sensor configured to sense the presence of successive heating elements *proximate* said second sensor as the heating elements move past said sensors along the predefined path. While the sensors are adjacent (see Figures), each sensor senses a different heating element. Applicant's argument that Gutsaffson essentially has the sensors spaced sufficiently far apart that it cannot meet this limitation, especially in view of Figures 8 and 9, which show the relative size and position of the heating elements 12 and 13 and the sensors 92 and 93.

However, Ogiwara discloses that it is known to have a first sensor (position sensor 26, best seen in Figure 2) configured to sense the presence of the heating

element as the heating element moves past the first sensor, and a second sensor (temperature sensor 38) mounted to allow movement of the heating element thereto (the movement being created by items 17 and 19), and configured to sense a temperature associated with the heating element when the first sensor senses the presence of the heating element (see also paragraph 0015). Ogiwara discloses that the combination of the two measurements allows for a calculation of the proper temperature compensation factor (see paragraph 0023). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the sensor positions and control operation of Ogiwara in order to achieve accurate temperature control and compensation as disclosed in Ogiwara.

As to claim 2 and 24, Ogiwara discloses measuring the heat variations and variation rate (see paragraph 0028), which is a deviation from a predetermined temperature range.

As to claim 5 and 25, Gustafsson discloses using a proximity sensor (described in column 6, lines 27-48). Gutsafsson discloses that the proximity sensor ensures a quality seal formation by ensuring that the sealing components are properly lined up (for example, see the function of the circuit in column 6, line 56 to column 7, line 13).

Additionally, to claims 5 and 25, Ogiwara as incorporated discloses that the first sensor measures the position of the cutting turret (see paragraph 9). Therefore, Ogiwara discloses a proximity sensor.

8. Claims 1, 2, 5, 8, 9, 12, 15-17, 24-25, 29-30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pruett (US Patent 5,678,390) in view of Ogiwara (JP11-156,676) and Gustafsson (US patent 6,035,604).

As to claim 1, Pruett discloses an apparatus for monitoring the operation of a heating device at least one heating element (items 32 and 36) moving periodically along a predefined path (the rotational path of the sealing head), the apparatus comprising a second sensor (temperature sensors 59 and 63) configured to sense a temperature associated with the heating element, and a controller coupled with the second sensor and configured to monitor the second sensor and to perform a control function in response to the temperature sensed by the second sensor (see Figures 7a-e).

Pruett does not disclose a first sensor (position resolver 47) configured to sense the presence of the heating element as the heating element moves past the first sensor, or that the controller additionally interacts based on this first sensor information, or that the second sensor is mounted to allow movement of the heating element relative thereto and operates when the first sensor senses the presence of the heating element.

However, Gutsaffson discloses utilizing sensors adjacent each other and that sensors can be replaced with temperature sensors (see column 7, lines 61-67). One in the art would immediately appreciate that such a presence sensor adjacent to the temperature sensor would enable control of the positioning and registration of the heating element relative to the substrate, and would thus improve final product quality. These sensors are not proximate each other, such that the first sensor senses the position of the heating element as the second sensor senses the temperature.

However, Ogiwara discloses that it is known to have a first sensor (position sensor 26, best seen in Figure 2) configured to sense the presence of the heating element as the heating element moves past the first sensor, and a second sensor (temperature sensor 38) mounted to allow movement of the heating element thereto (the movement being created by items 17 and 19), and configured to sense a temperature associated with the heating element when the first sensor senses the presence of the heating element (see also paragraph 0015). Ogiwara discloses that the combination of the two measurements allows for a calculation of the proper temperature compensation factor (see paragraph 0023). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the sensor positions and control operation of Gutsafsson and Ogiwara in order to achieve accurate temperature control and compensation as disclosed in Ogiwara.

Since the limitations of claim 34 are fully encompassed by claim 1, claim 34 is rejected on the same grounds.

As to claim 2, Pruett discloses that the controller is configured to indicate when the temperature sensed by the second sensor deviates from a predetermined temperature range (see Figure 7b, especially steps 116 through 128).

As to claim 8, Pruett discloses an apparatus sealing bags filled with articles, comprising a sealing station including a press plate (i.e., a crimp mechanism - see abstract) and at least one heating element proximate the press plate and configures to move in a periodic motion relative to the press plate, a conveyor (item 11, Figure 1) adapted to transport a bag from the bag fill machine to the sealing station, a sealing

station monitor comprising a second sensor (temperature sensors 59 and 63) configured to sense a temperature associated with the heating element, and a controller coupled with the second sensor and configured to monitor the second sensor and to perform a control function in response to the temperature sensed by the second sensor (see Figures 7a-e).

Pruett does not disclose a first sensor (position resolver 47) configured to sense the presence of the heating element as the heating element moves past the first sensor, or that the controller additionally interacts based on this first sensor information, or that the second sensor is mounted to allow movement of the heating element relative thereto and operates when the first sensor senses the presence of the heating element.

However, Gutsaffson discloses utilizing sensors adjacent each other and that sensors can be replaced with temperature sensors (see column 7, lines 61-67). One in the art would immediately appreciate that such a presence sensor adjacent to the temperature sensor would enable control of the positioning and registration of the heating element relative to the substrate, and would thus improve final product quality. These sensors are not proximate each other, such that the first sensor senses the position of the heating element as the second sensor senses the temperature. However, Ogiwara discloses that it is known to have a first sensor (position sensor 26, best seen in Figure 2) configured to sense the presence of the heating element as the heating element moves past the first sensor, and a second sensor (temperature sensor 38) mounted to allow movement of the heating element thereto (the movement being created by items 17 and 19), and configured to sense a temperature associated with the

heating element when the first sensor senses the presence of the heating element (see also paragraph 0015). Ogiwara discloses that the combination of the two measurements allows for a calculation of the proper temperature compensation factor (see paragraph 0023). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the sensor positions and control operation of Gutsafsson and Ogiwara in order to achieve accurate temperature control and compensation as disclosed in Ogiwara.

As to claim 9, Pruett discloses that the controller is configured to indicate when the temperature sensed by the second sensor deviates from a predetermined temperature range (see Figure 7b, especially steps 116 through 128).

As to claim 24, Pruett discloses that the controller is configured to indicate when the temperature sensed by the second sensor deviates from a predetermined temperature range (see Figure 7b, especially steps 116 through 128).

As to claim 29, Pruett discloses that the controller is configured to indicate when the temperature sensed by the second sensor deviates from a predetermined temperature range (see Figure 7b, especially steps 116 through 128).

As to claims 5, 12, 25, and 30, Pruett does not discloses a position encoder, and therefore does not go into detail as to the encoder.

Gustafsson discloses using a proximity sensor (described in column 6, lines 27-48). Gutsafsson discloses that the proximity sensor ensures a quality seal formation by ensuring that the sealing components are properly lined up (for example, see the function of the circuit in column 6, line 56 to column 7, line 13). Ogiwara discloses that

the first sensor measures the position of the cutting turret (see paragraph 9). Therefore, Ogiwara discloses a proximity sensor. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such proximity sensors in order to achieve proper seal formation.

As to claims 15-17, Pruett utilizes a roller for the heat sealing element, rather than a belt. However, Gutsafsson discloses that the heating elements are disposed on a chain conveyor, i.e., a rotating endless belt. Furthermore, one in the art would immediately recognize that such a belt enables a longer heating element "contact time", and thus a corresponding lower temperature for the heating element, resulting in reduced risk of burning of the packaging material. Additional, as a separate motivation, one in the art would also appreciate that a belt enables a "flat", extended contact of the sealing element with the packaging material, thus enabling a better seal formation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilize a belt in order to both reduce the risk of burning the packaging or sealing material, and to improve seal formation.

Furthermore, as to claims 16, the heating blocks in Gutsafsson appear to seal an individual bag in a revolution (since it involves only a pair of heat elements).

As to claim 17, Pruett and Gutsafsson disclose that the heater elements seal a bag in the form of a web or tub at the desired intervals.

Conclusion

9. Applicant's amendment (to all independent claims on 4/4/2005) in combination with applicant's successfully overcoming the rejection on 3/10/2006 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571) 272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

George R. Koch III
Primary Examiner
Art Unit 1734

GRK
3/23/2006